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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/920,223	08/01/2001	Rui Lin	884.489US1	5847
21186	7590	11/22/2004	EXAMINER	
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402			BATURAY, ALICIA	
			ART UNIT	PAPER NUMBER
			2155	

DATE MAILED: 11/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center">Office Action Summary</p>	<p>Application No.</p> <p>09/920,223</p>	<p>Applicant(s)</p> <p>LIN ET AL.</p>	
	<p>Examiner</p> <p>Alicia Baturay</p>	<p>Art Unit</p> <p>2155</p>	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>11152004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-25 are pending.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-13 and 17-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Dye et al. (U.S. 6,208,273).
4. As to claim 1, Dye discloses a method for caching web page on a wireless communication device (Dye, col. 16, lines 66-67) comprising: receiving web page content over a wireless link (Dye, col. 17, lines 2-6); compressing a portion of the web page content in response to a request to cache and decompressing a compressed portion of the web page content in response to a request to retrieve cache (Dye, col. 17, lines 1-6).
5. As to claim 2, Dye discloses the invention substantially as described in claim 1, including the method where the compressing comprises invoking one of a plurality of compression accelerators (Dye, Fig. 8, element 570 and 575) to compress the portion the web page content based on a data type of the portion (Dye, col. 21, lines 54-56), and where the decompressing

comprises invoking one of a plurality of decompression accelerators (Dye, Fig. 8, elements 550 and 555) to decompress the compressed portion of the web page content based on a data type of the compressed portion (Dye, col. 21, lines 33-36).

6. As to claim 3, Dye discloses the invention substantially as described in claim 2, including the method further comprising of invoking a first of the compression accelerators for the portions of the web page content of a first data type (Dye, Fig. 8, element 570); invoking a second of the compression accelerators for the portions of the web page content of a second data type (Dye, Fig. 8, element 575); invoking a first of the decompression accelerators for the compressed portions of the web page content of the first data type (Dye, Fig. 8, element 550); and invoking a second of the decompression accelerators for the compressed portions of the web page content of the second data type (Dye, Fig. 8, element 555).
7. As to claim 4, Dye discloses the invention substantially as described in claim 1, including the method further comprising as part of a caching operation: transferring the portions of the web page content to be cached to a compression engine input buffer (Dye, Fig. 20, element 261; col. 35, lines 35-41); and transferring, subsequent to compression, the compressed portions of the web page content from a compression engine output buffer (Dye, Fig. 20, elements 581 and 582) to the cache memory (Dye, col. 20, lines 21-22); and as part of cache retrieval operation: retrieving the compressed portions of the web page content from a cache memory (Dye, col. 20, lines 21-22); transferring the compressed portions of the web page content to a decompression engine input buffer (Dye, col. 14, lines 62-64); and retrieving decompressed

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portions of the web page content from a decompression engine output buffer (Dye, col. 14, line 62 – col. 15, line 5).

8. As to claim 5, Dye discloses a system for caching a web page comprising: a compression engine compressing portions of web page content responsive to a request to cache the web page (Dye, col. 17, lines 1-6), the compression engine comprising a plurality of compression accelerators (Dye, Fig. 8, element 570 and 575) where at least one of the compression accelerators is invoked to compress one of the portions based on a data type of the portion (Dye, col. 21, lines 54-56); and a decompression engine decompressing compressed portions of the web page content from a cache memory (Dye, col. 17, lines 1-6), the decompression engine comprising a plurality of decompression accelerators (Dye, Fig. 8, elements 550 and 555) where at least one of the decompression accelerators is invoked to decompress one of the compressed portions based on a data type of the compressed portion (Dye, col. 21, lines 33-36).
9. As to claim 6, claim 3 is a method performing the same functions as claim 6. Therefore, paragraph 6 of this Office Action discloses all of the limitations of claim 6.
10. As to claim 7, Dye discloses the invention substantially as described in claim 6, including the system where: the compression engine comprises: a compression engine controller to invoke one of the compression accelerators based on the data type (Dye, Fig. 8, element 516); a compression engine input buffer to store the content prior to compression by the

compression accelerators (Dye, Fig. 20, element 261; col. 35, lines 35-41); and a compression engine output buffer to store compressed content received from the compression accelerators (Dye, Fig. 20, elements 581 and 582), and the decompression engine comprises: a decompression engine controller to invoke one of the decompression accelerators based on the data type (Dye, Fig. 8, element 512); a decompression engine input buffer to store the compressed portions of the content prior to decompression by the decompression accelerators (Dye, col. 14, lines 62-64); and a decompression engine output buffer to store decompressed portions of the content subsequent to decompression (Dye, col. 14, line 62 – col. 15, line 5).

11. As to claim 8, Dye discloses the invention substantially as described in claim 7, including the system further comprising: a host processor (Dye, Fig. 1, element 102); and a cache memory (Dye, Fig. 1, element 104), where as part of a caching operation, the host processor transfers the portions of the web page content to be cached to the compression engine input buffer (Dye, Fig. 20, element 261; col. 35, lines 35-41), and subsequent to compression, transfers the compressed portions of the web page content from the compression engine output buffer (Dye, Fig. 20, elements 581 and 582) to the cache memory (Dye, col. 20, lines 21-22), and where as part of cache retrieval operation, the host processor retrieves the compressed portions of the web page content from cache memory (Dye, col. 20, lines 21-22), transfers the compressed portions of the web page content to the decompression engine input buffer (Dye, col. 14, lines 62-64), and retrieves decompressed portions of the web page content from the decompression engine output buffer (Dye, col. 14, line 62 – col. 15, line 5).

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12. As to claim 9, Dye discloses a compression engine comprising: a plurality of compression accelerators (Dye, Fig. 8, element 570 and 575); and a controller identifying a data type for portions of content of a web page to be cached and invoking one of the compression accelerators of the plurality based on the data type (Dye, col. 21, lines 54-56).
13. As to claim 10, claim 3 is a system performing the same functions as claim 10. Therefore, paragraph 6 of this Office Action discloses all of the limitations of claim 10.
14. As to claim 11, Dye discloses the invention substantially as described in claim 9, including the compression engine where each compression accelerator of the plurality is configured to implement one of a plurality of predetermined compression algorithms (Dye, Fig. 20, elements 570 and 575).
15. As to claim 12, claim 4 is a method performing the same functions as claim 12. Therefore, paragraph 7 of this Office Action discloses all of the limitations of claim 12.
16. As to claim 13, Dye discloses the invention substantially as described in claim 9, including the compression engine where the content of the web page comprises a plurality of data types (Dye, col. 43, lines 34-37), each data type having a data type tag associated therewith (Dye, col. 21, lines 33-36), and where the controller reads the tag and selects one of the compression accelerators for each data type (Dye, col. 21, lines 36-39), and where: a first of the compression accelerators is configured to implement in hardware a first compression

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algorithm for a first of the data types (Dye, Fig. 8, element 570); and a second of the compression accelerators is configured to implement in hardware a second compression algorithm for a second of the data types (Dye, Fig. 8, element 575), where the first and second data types are distinct and the first and second compression algorithms are distinct (Dye, col. 4, lines 16-18; col. 4, lines 22-24).

17. As to claim 17, Dye discloses the invention substantially as described in claim 9, including the compression engine where the controller refrains from invoking one of the compression accelerators (Dye, col. 21, lines 44-46) for portions of the content received in compressed form (Dye, col. 40, lines 45-46).

18. As to claim 18, Dry discloses a decompression engine comprising: a plurality of decompression accelerators (Dye, Fig. 8, elements 550 and 555); and a controller to identify a data type for compressed portions of content of a web page to be retrieved (Dye, col. 21, lines 49-52), and to invoke one of the decompression accelerators of the plurality based on the data type (Dye, col. 21, lines 44-46).

19. As to claim 19, claim 13 is a system performing the same functions as claim 19. Therefore, paragraph 16 of this Office Action discloses all of the limitations of claim 19.

20. As to claim 20, Dye discloses the invention substantially as described in claim 18, including the decompression engine where each decompression accelerator of the plurality is

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configured to implement one of a plurality of predetermined decompression algorithms (Dye, Fig. 20, elements 550 and 555).

21. As to claim 21, claim 4 is a method performing the same functions as claim 21. Therefore, paragraph 7 of this Office Action discloses all of the limitations of claim 21.

22. As to claim 22, claim 13 is a method performing the same functions as claim 22. Therefore, paragraph 16 of this Office Action discloses all of the limitations of claim 22.

Claim Rejections - 35 USC § 103

23. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

24. Claims 14-16 and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dye and further in view of Kost (U.S. 5,867,112).

25. As to claim 14, Dye teaches the use of compression algorithms, but does not teach the explicit use of the LZ77 algorithm or the PNG format. However, Kost does teach a compression engine where the first compression algorithm is a Lempel-Ziv 77 (LZ77) compression algorithm (Kost, col. 1, line 54), and a data type comprising of portable network graphics (PNG) data (Kost, col. 4, line 9). It would have been obvious to one skilled at the art

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at the time the invention was made to combine the teachings of Dye and Kost to facilitate the storage of graphics and text images on computer memory in a compressed format to save disk space (Kost, col. 2, lines 11-13).

26. As to claim 15, the combination of Dye and Kost (Dye-Kost) discloses the invention including the compression engine further comprising a third compression engine configured to hardware implement a third compression algorithm for third data types of the group consisting of either joint photographic experts group (JPEG) or moving pictures experts group (MPEG) data (Kost, col. 3, line 42).

27. As to claim 16, Dye-Kost discloses the invention substantially as described in claim 14, including the compression engine where the second compression algorithm is a LZW compression algorithm (Kost, col. 1, line 49), and the second data type comprises graphic interface format (GIF) data (Kost, col. 4, line 13).

28. As to claim 23, claim 14 is a method performing the same functions as claim 23. Therefore, paragraph 25 of this Office Action discloses all of the limitations of claim 23.

29. As to claim 24, claim 16 is a method performing the same functions as claim 24. Therefore, paragraph 27 of this Office Action discloses all of the limitations of claim 24.

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30. As to claim 25, claim 15 is a method performing the same functions as claim 25. Therefore, paragraph 26 of this Office Action discloses all of the limitations of claim 25.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia Baturay whose telephone number is (571) 272-3981. The examiner can normally be reached at 7:15am - 3:45pm, Monday - Friday, and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on (571) 272-3978. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AB


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SUPERVISORY PATENT EXAMINER